

liast alleges, but the scribe apparently believes that Dioscorides was describing a plant other than the one we now think he intended. Knowing it to be wrong, the Byzantine commentator hoped to correct the description with details so exact that we can be virtually certain which plant he intended.

Dioscorides devotes one chapter to woad (ῥάτις [*Isatis tinctoria* L.]) and another to "wild woad" (ῥάτις ἄγρια),<sup>83</sup> which modern authorities agree is another species of woad, while disagreeing on the exact nomenclature.<sup>84</sup> He writes that the plant is similar to ordinary woad except that it has larger leaves, like lettuce, but with slender stems which are reddish and multi-branched, on the end of which hang many tongue-like pods containing the seeds, the flowers being yellowish and small.<sup>85</sup> Modern descriptions add only that woad has petals up to twice as long as the sepals.<sup>86</sup> The Byzantine scribe believes he is correcting Dioscorides as he writes:

One must consider faulty the information on woads. The cultivar (ἡ ἡμερος) bears a quince-yellow flower, thinner and greatly subdivided branches, and little pods from the top which are like tongues, in which are the seeds; but there is enclosed in these a black seed like black cummin (μελάνθιον, *Nigella sativa* L.).<sup>87</sup> and its stalk grows to a height of over two πῆχεις (c. 3 ft./95 cm.), not to a height of a πῆχυς (c. 1½ ft./47 cm.). The wild kind, however, bears blacker leaves than the cultivar, and the wild kind has a shorter and thicker stalk, a purple or blue flower, and a prickly fruit shaped like a cross, in which the seed is as if divided into five equal small leaflets.<sup>88</sup>

The scholiast's description compares well with technical, modern depictions of cow basil (*Vaccaria pyramidata* Medicus) and its flowers, stalk, ovary, and seeds.<sup>89</sup> The Byzantine commentator observes that the seed pod has five small equal leaflets, and the

<sup>83</sup> Dioscorides II, 184 and 185 (ed. Wellmann, Vol. I, pp. 253–54).

<sup>84</sup> Berendes, trans., *Dioskurides*, 258, with list of suggested spp.

<sup>85</sup> Dioscorides II, 185 (ed. Wellmann, Vol. I, p. 254).

<sup>86</sup> Polunin, *Flowers of Europe*, no. 292; *Hortus Third*, 606.

<sup>87</sup> Cf. Dioscorides III, 79 (ed. Wellmann, Vol. II, pp. 92–93).

<sup>88</sup> Schol. Dioscorides II, 185 (ed. Wellmann, Vol. I, p. 254; *app. crit.* to line 11). \*Vatican, MS Pal. gr. 77, and Paris, B.N., MS gr. 2182 end with οὐλοει διελημμένον (line 8 of scholium); but three earlier MSS add five further lines (as printed by Wellmann).

<sup>89</sup> Polunin, *Flowers of Europe*, no. 182; *Hortus Third*, 1142.

*Hortus Third*, a modern botanical reference, says "epicalyx absent, calyx 5-lobed, 5-winged, inflated petals 5 . . . seeds nearly globose."<sup>90</sup> By contrast, woad's seed is black, but flat and pendulous, and does not compare to the seed of black cummin in the manner of cow basil's seed. In summary, this scholium reveals excellent attention to botanical detail rarely equaled in ancient or medieval herbals. Although the scholiast probably has mistaken Dioscorides' intended plant, he has boldly and explicitly written that Dioscorides was wrong and proceeded with his corrections. The unknown Byzantine commentator has trusted his observation of the plant in nature in a way that his western counterpart would not have done.

Byzantine commentaries on Dioscorides are apparently carefully pondered, and their contents are rationally constructed corrections and supplements to the text. A certain number of them are clearly derived from classical authorities, but most seem to be the results of Byzantine medicine's experience with the drugs mentioned in Dioscorides' *Materia medica*. By comparison, the manuscripts of the Old Latin Translation of Dioscorides reveal clumsy copyist errors by scribes who knew little about the material they were handling. It was not until the late eleventh century, when Constantine the African (or someone from his school) rearranged the Old Latin Translation in alphabetical order, that a large scale,<sup>91</sup> rationally designed set of commentaries were attached to Dioscorides' Latin text. By contrast, the Byzantine commentaries were more modest, but generally of a high medical and botanical quality. These Byzantine scholia show the purpose toward which Dioscorides' works were directed: medicine. The texts were not exclusively warehoused in isolated monastic libraries awaiting a Renaissance dusting. They must have been used by physicians.

<sup>90</sup> *Hortus Third*, 1142.

<sup>91</sup> J. M. Riddle, "The Latin Alphabetical Dioscorides," *Proceedings of XIIIth International Congress of the History of Science, Moscow, August 18–24, 1971* Sections III & IV (Moscow, 1974), 204–9, and Riddle, "Dioscorides," *Catalogus*, 23–27.

## Folk Tradition and Folk Medicine: Recognition of Drugs in Classical Antiquity

IN the late nineteenth century the History of Medicine and Pharmacy came to be studied for what was learned about history rather than about lost secrets in medicine. Although the romance of lost medical secrets attracted increased scorn from professional historians, many of the same historians harbored a romantic infatuation with Hippocrates, as the ancient founder of medicine. As early as Hellenistic Alexandria, he was venerated and regarded as the founder of scientific medicine for allegedly separating it from empirical practices, magic, superstition, and priestly rituals. All diseases are equally divine and equally natural.<sup>1</sup> This expression, found in the Hippocratic treatise *Sacred Disease*, came to embrace the philosophy of science on which the foundation of modern science and medicine rested. In the last twenty years, however, Hippocrates is regarded more as a legend, than as a founder. There are more than sixty treatises ascribed to Hippocrates but mostly written between 430 and 330 B.C. Now we place all of these works under the generic rubric "Hippocratic Corpus" (HC).<sup>2</sup> Regardless of authorship, they all seemed to share some common sentiments, preeminently among them, a prejudice in favor of rationality. In the hundreds of years of scholarship on the HC, there is no serious challenge to the assertion that the writers of these nascently scientific works founded a rational medicine different from folkish ways, summarized in a phrase often quoted from the Hippocratic Corpus: "witch-doctors [or 'magicians'], faith healers [or 'purifiers'], charlatans and quacks."<sup>3</sup>

In the history of pharmacy, the fact that there was little therapeutic intervention found in the Hippocratic Corpus was seen positively in contrast to the primitive, empirical medicine in what was known of Egyptian and Mesopotamian medicine. When we had the contexts to identify the plant, mineral, and, above all, animal substances in the

Scientific  
medicine



ancient tablets, stones, and papyri, we saw a legacy of the doctrine of signatures and, less often, of opposite qualities as a means of explaining active pharmacy. All too often in Near Eastern medicine, magic appeared lurking near the front, enough so that we distrusted the medical rationality of the document's worth. Instead, modern historians agreed with the Alexandrians and some Romans that the Hippocratic physician was the founder of scientific medicine. Moderns regarded the Hippocratic physician as one who knew that he knew little about disease, made his patient comfortable, removed by regime all that might hinder nature, and finally and above all, described with a keen eye and precise language the course of disease and recovery from injury.

In his herculean *Introduction to the History of Science* (1927-1948) George Sarton declared that he would not include magic because its study would be about unreason while science was the study of reason, that is to say, progress. W.H.S. Jones declared, "if we take the Hippocratic collection we find that in no treatise is there any superstition."<sup>4</sup> The HC author of *Ancient Medicine* captured the eternal aspiration of medicine when he wrote: "Medicine has for long possessed the qualities necessary to make a science."<sup>5</sup>

In pharmacy these extremely postivistic assertions are troublesome. On one hand, there are modern scientists and scholars who believe as does Arthur K. Shapiro that the only linkage between modern and ancient medicine is the placebo effect, and Henry F. Dowling, who simply says, "Less than two dozen effective drugs were known before the year 1700."<sup>6</sup> In 1927, the same year as Sarton's first volume appeared, W.H.R. Rivers wrote the classic *Medicine, Magic, and Religion*, which defined medicine as part of a cultural system. Historians of pharmacy were faced with a problem either to accept the whig school of progress in the separation of the rational from the irrational, science from magic, or to view ancient pharmacy on the same grounds as the medical anthropologists, that is to say, engage in descriptive analysis in much the same way as the Hippocratic physician apparently treated his patients.

In contrast, Erwin H. Ackerknecht estimated that medical people in some traditional medicine groups employ a pharmacopoeia that consists of twenty-five to fifty per cent "objectively active" drugs.<sup>7</sup> What ever the drugs our ancestors had, whether effective or not in our sense, is beside the point as to when scientific medicine came to view folk drugs usages as beneath the dignity of a learned physician. When we study the early drugs that the early Greeks used, a different picture about early medicine emerges. Enough information recently has come to light so that we can reexamine the interrelation between science and folklore in classical culture. The ghosts, goblins, and malignant spirits were not driven from medicine by the Hippocratic rationalists, nor did these low level elements have an entirely inhibiting effect to "progressive developments" in medical history.

relationship b/w Science + folklore

## FOLK TRADITION AND FOLK MEDICINE

Edith K. Ritter's study of Assyrian tablets makes clear that the ancient Babylonians distinguished two types of medical practitioners: the *āšipu* or magical-expert and the *asû*, physician.<sup>8</sup> The *āšipu* viewed disease in a broad context of natural and supernatural powers. Treatment consisted of incantations, rituals, and various regimens designed to drive away the malignant influences on the sick person. In contrast, the *asû*, physician in a broad interpretation, did not affix supernatural causes to disease. Indeed, normally he did not inquire into the etiology or make a prognosis. He treated specific symptoms by empirical therapies. Both the *āšipu* and the *asû* employed drug therapy, but the *āšipu*'s cupboard was relatively bare, showing a preference for stones, wool, and aromatic drugs. On the other hand, the *asû* prepared drugs and treated patients on an empirical basis. Prescription tablets sometimes begin: "A proved prescription of the hands of the master"; and "A proved/tested [tried and true] prescription. . . ." More detail is given concerning preparation and administration (e.g., bandages, massages, lavages, salves, potions, pills, suppositories, tampons, and enemas). Even though many of the plant names especially are difficult to translate and place in modern terminology, there are familiarities with such drugs as colocynt seeds, chaste tree, garlic, cress, onions, thyme, and juniper.<sup>9</sup>

Texts for the *asû* and *āšipu* are prevalently separate and distinct, but occasionally there are texts which show that the patient tried one type of practitioner unsuccessfully and went to the other type for a different treatment. The inference is made in a few instances that there was some cooperation between the two types of practitioners.<sup>10</sup> This should not be surprising to us in the modern world because medical anthropologists describe communities that have both native medicine practitioners and modern, Western ones. People seem to know generally what types of problems to take to what kind of healer. If one type does not give successful treatment, the patient takes his or her problem elsewhere.<sup>11</sup> The point is not to reaffirm historically what we moderns already know from evidence much more direct than the ancient Greeks. Instead we observe that Ancient Near Eastern cultures may have evolved the distinction between spiritual healers and empirical healers long before any famous man by the name of Hippocrates was on Cos or anyone wrote a word in Greek attributed to the Ancient Founder.

An apparently distinguishing characteristic of the Hippocratic writings, however, is a contentiousness against faith healers, magic, and superstition. Beginning in the late fifth century B.C. there appeared a new type of practitioner, a person of learning and philosophy, whom we have come to name as the true physician (*iatros*). As one Hippocratic writer expressed it, "Each [disease] has its own nature [*physis*] and property [*dynamis*] and there is nothing in any disease which is unintelligible or which is insusceptible to treat. . . . He [i.e., a person of the art of medicine] would not need to resort to purifications and

no  
exclusive  
healing  
methodology



magic and all kind of charlatanism."<sup>12</sup> In medical therapy, a chief distinguishing feature of the new medicine is the emphasis on diet as the principal means of health maintenance and restoration.<sup>13</sup> Drug therapy, while not prohibited, appeared too close to purifications, magic, and charlatanism for too cozy an embrace.

In the *HC* there is not a kind word said for the older practitioners despite the voluminous discussion of diseases, injuries, health, water, airs, foods, anatomy—to a lesser extent—and other health issues. Occasionally the writings contradict one another, but never on the issue of unlearned medical practitioners. Although to some degree the Hippocratic physicians were like-minded,<sup>14</sup> because they were trained by the apprenticeship mode, there was no Hippocratic doctrine, indeed no oath, but there was an attitude. In the entire *HC* there is no work devoted to pharmacy *per se* and, for medical works, precious few concerns with therapy, except for diet. Dietlinde Goltz names only six works as therapeutically centered, two being on women's diseases:<sup>15</sup>

*Diseases: Peri nousōn* Bks. II & III: De morbis.<sup>16</sup>

*Internal affections: Peri tōn entos pathōn;* De affectionibus interioribus.<sup>17</sup>

*Affections: Peri pathōn:* De affectionibus.<sup>18</sup>

*Places in Man: Peri topōn tōn kata anthrōpon:* De locis in homine.<sup>19</sup>

*Women's Disorders: Gynaikeia:* De mulierum affectionibus.<sup>20</sup>

*The Nature of Women: Peri gynaikēiēs physios:* De natura muliebri.<sup>21</sup>

Argumentatively, the list could be expanded by: **On visions, Fistulas, Purgatives, Ulcers, Diseases V, and Machinery for reducing dislocations.**<sup>22</sup>

### Drug Nomenclatures

I took the drug list compiled and published in 1824 by Johann Heinrich Dierbach, *Die Arzneimittel des Hippokrates* (Heidelberg), and compared its natural product drugs with modern pharmacy and pharmacognosy guides. My identifications were guided by Dierbach but in many cases I have made corrections of obvious errors. There are many plants imperfectly identified because the species are often uncertain. Treatises in the *HC* treatises give neither descriptive detail about the drugs nor detail about preparation, as this example from *Internal Affections* illustrates: "If that be the case [it is necessary] to purge the bowels with spiny spurge (*hippophaes*), then afterwards with hellebore, and to purge the head with antimony. . . ."<sup>23</sup>

I selected the modern guides because each one had a different purpose. The eighth edition (1981) of *Pharmacognosy* by Varro E. Tyler, Lynn R. Brady, and James E. Robbers is a hardline science of pharmacy approach to natural products. The twenty-fifth edition of the *United States Dispensatory*, Arthur Osol, George Farrar Jr., et al. (Philadelphia, 1955) contains more than 500 non-official drugs according

to the United States Pharmacopoeia and other official guides. Walter Lewis and Memory Elvin-Lewis's *Medical Botany* is a guide to plants affecting health and it includes information derived from both anthropology and science studies. Trease-Evan's *Pharmacognosy* is more of a research reference to the scientific study of natural product drugs. Given these disparate guides, it is not surprising to find uneven results in the listings, but, although uneven, the data are revealing.

The comparison of the Hippocratic drugs with the modern guides unveils a surprising correspondence. Of the 257 drugs in the *HC* only twenty-seven or 10.5% are not listed in at least one of the modern guides. Of the twenty-seven, six to eight are more often classed as foods rather than drugs: blite, cucumber, turnip, lentil, medlar, cress, and, possibly, black cumin and asphodel. The twenty-seven have three animal products: eggs, castoreum (from beaver), and horn. Water and horn are two which one would not expect to find in a pharmacognosy guide, although most recipes contain water and calcium in the horn may have some physiological effects. The remainder are: cotyledon (50), hares tailgrass (56), ceterach (78), thorny bunet (81), lepidium (112), shepherd's purse (113), rocket salad (115), hartwort (196), alexanders (200), samphire (201), horse fennel (202), caucalis (205), daucos (206), and potter's earth (255).

The identification of eleven of the 257 is so uncertain that a tentative suggestion was not made. The reason for difficulty in identifying these plants is because they are not common, and this probably means that any use of them as a drug was slight. Sporadically, the only reference for an unidentifiable term in Greek is here in the *HC*. The plants contributing the greatest usages in pharmacy tend to be extensively used throughout the years from the time of *HC* to the time of Linnaeus, such as drugs from almonds, lettuce, fenugreek, mistletoe, licorice, willow, poppy, white hellebore, black hellebore, stavesacre, colocynth, cassia, scammony, spurge, rue, calamus, cinnamon, horehound, thyme, cat mint, wormwood, anise, coriander, juniper, storax, myrrh, henbane, and hemlock. Some plants are included in the *HC* list that clearly were little used as drugs. House leek or hen-and-chickens, for example, is mentioned only once and that comes in the treatise *On the Nature of Women* where it is described as a good additive in drink for nursing women. Willow leaves are used solely as a fumigant to promote menstruation.<sup>24</sup> This observation about willow leaves points out a weakness of these data: they identify the medicinal plants and other drugs but do not evaluate their usages.

Another approach to these data adds insight. Tyler-Brady-Robbers's *Pharmacognosy* has a chapter on resins and resin combinations in which some eighteen natural product medicinal plants are discussed. Eight of the eighteen are plants indigenous to North and South America. Of the remainder, eight are found in the *HC*, leaving only two: cannabis and storax. The medicinal use of cannabis was known later in antiquity to Dioscorides (fl. 40–80 A.D.)<sup>25</sup> and storax from liquid

Continuity of  
food as  
drugs



amber is a medieval substitute discovered when the old source of a similar resin was harvested almost to extinction.<sup>26</sup> The correlation between the Hippocratic drugs (*HC*) and modern ones available in Europe then is quite close; this phenomenon could not be due to random selection of drugs by classical peoples employing only placebos with their magic and superstition. Something more, something much more, is happening here, as evident from this historical data.

Even more startling is the correlation with the alkaloidal plant drugs. Of the thirty-four alkaloids listed in the modern sources, eighteen are New World, East African, Australian or Oceania—in other words, not indigenous to Europe, the Mediterranean or its immediate trading areas. Two, ergot and tryptophan, are derived from microorganisms which we do not expect to find in pre-modern sources. In one case, hydrastis, the source, *Hydrastis canadensis* L., is not found in the *HC* but the crude source, berberine, is found in rue which was employed by the Hippocratic authors.<sup>27</sup> Three which were not, withania from *Withania somnifera* Dunal, nux vomica from *Strychnos nux-vomica* L., and, possibly, stramonium from *Datura stramonium* L., are found in Dioscorides' *De materia medica*.<sup>28</sup> Regarding the last one, catharanthus alkaloids, I am uncertain whether the plant was known in antiquity because of the confusion between the Catharanthus and Vinca species.<sup>29</sup> These data demonstrate decisively that what there was to be discovered was discovered by the time that these medicinal substances were recorded in the first so-called scientific writings.

### Empirical Tradition

The question now comes down to how did the *HC* writers learn which plants, which animal products, and which minerals were useful? On the basis of all evidence, explicitly and implicitly derived, there is no serious claim that the Hippocratic physicians had research laboratories where substances were tested. By elimination of alternative hypotheses, this leaves folklore, or—searching for words—folk usage, or empirics who practiced medicine much as the *asû*, and probably the *āšipu*, did in Babylonia. A number of terms are available, such as ethnopharmacy, ethnomedicine, folk medicine, popular medicine, popular health culture, ethnoiatry, and ethnoiatrics to describe this but, in keeping with this Symposium title, I shall use 'folk medicine' to denote medical practice before the *HC* and the traditional medicine that competes with scientific medicine after the fifth century B.C.

Many of the drugs found in the *HC* are found in earlier Near Eastern works. More research is needed to confirm more certainly the early evidence. There is little evidence that native Greek medical practitioners earlier than the *HC* writers employed written Near Eastern sources, and no Hippocratic works could be called pharmaceutical, not even the short work on laxatives, which is a medical discussion about their administration and not about specific drugs.<sup>30</sup> Dietlinde Goltz

believes that references in *Affections* to a source called *pharmakitis* means that there is a lost work on Hippocratic drugs, but her suggestion is emphatically rejected by Georg Harig.<sup>31</sup> An interesting corollary is why many, if not most, of the drug references in the *HC* derive from two treatises on women's disorders?<sup>32</sup>

In stark contrast to the disdain of folk medicine shown by the Hippocratic writers, Theophrastus (*d. ca. 287 B.C.*) readily accepted information from common people and ordinary folk medicine practitioners, herbalists, or druggists called *pharmakopōloi* and *rhizotomoi* in his work called *Inquiry into Plants*.<sup>33</sup> Not only did he accept their information but he valued their knowledge. In relating that wolf's bane supposedly kills scorpions, Theophrastus wrote, "Now if what has been told already about the scorpion be true, then other similar tales are not incredible. And in relation to our own persons, apart from their effects in regard to health, disease, and death, it is said that herbs have also other properties affecting not only the bodily but also the mental powers."<sup>34</sup> Certain areas were noted for their drug knowledge especially about plants which are either indigenous to their region or grow there more abundantly. Aconite grew at Akonai "from whence it gets its name," he wrote about this Bithynian village. Anticyra was associated with hellebore, Chaeronea with spurge, Tyrrhenia with meadow saffron, and Mount Deta with black hellebore, while the more distant Libyians were known for silphium, the Scythians for licorice, and the Sabateans for myrrh.<sup>35</sup> Particular physicians (*iatroi*) were associated with specific drugs. Thrasyas of Mantinea and his pupil Alexias were known for a prescription for a deadly poison that had hemlock as a base. Drug vendors called *pharmakopōloi* and herbalists called *rhizotomoi* supplied information about the medicinal usages of plants, which Theophrastus readily accepted, in one case giving the name of the vendor, Eudemus the Chian. In relating information about the emetic and purgative qualities of wild carrot (*thapsia*), Theophrastus gave information helpful to our understanding how folk learned of the medicinal qualities in the first place. He observed that, "The cattle of the country [Attica] do not touch it, but imported cattle feed on it and perish of diarrhea."<sup>37</sup> Medical anthropologists raise the question about how the plants with beneficial medicinal properties are first separated from the half million or so species which are inert or harmful, but provide no conclusive or hard answers. The medical historian, Erwin Ackerknecht suggested that the separation came the same way that ill animals seem to know by instinct which plants to eat. But anthropologist Francis J. Clune, Jr., says that this is too big a burden to place on instinct alone. Ackerknecht rejected primitive experimentation on the grounds that there is no historical or anthropological evidence that this occurred or occurs. Clune disagrees. He believes that he has seen primitive experimentation in Peru and among Indians in Ecuador. How else, he poses, could the pre-modern people have discovered the psychogenic property in practically every plant possessing those prop-



erties, plants such as coffee, tea, tobacco, yerba maté, peyote, marijuana, opium, alcohol, hallucinogenic mushrooms, and several other drugs? Some modern scholars believe that there is some evidence to suggest that there may be a pathological explanation whereby organoleptic hints about chemical effects may reside in plants and can be detected by peoples who learned that a plant with one taste may have the same medicinal effect as a plant with a similar taste.<sup>38</sup>

Modern people are not the only ones who raised the question about how medicines first were discovered. Theophrastus gives us some insight about the discovery of early medicines in his story about the discovery of the purgative properties of wild carrot learned through the observation of cattle feeding on it. A recent discovery that plants could have an effect on fertility occurred when Australians noted the miscarriages in sheep that had grazed on a type of clover.<sup>39</sup> The ancient author of the Hippocratic treatise, *Ancient Medicine*, said that medicines were discovered in the same way that primitive man tested potential foods to determine nutritional, beneficial, and healthy things to eat. But, he added, research by physicians takes into account the accumulative folk experiences and forms the art of medicine. "The discovery of medicine," he wrote, "came about by much investigation and art."<sup>40</sup> Now that the art of medicine has been established, he dismisses folk experiences as being outdated. As I stated above, a reason Hippocratic physicians took this stance may have much to do with their attempts to establish themselves as sole conveyors of medical services. Theophrastus, in contrast, was not a physician, and he both valued and acknowledged traditional folk experience with medicines. The Hippocratic physicians, lacking a comprehensive theoretical basis to apply, simply took the vast data supplied by folk medicine and contemptuously dismissed the source. Just the same, they had to rely, as Geoffrey Lloyd said, "on observation of what worked."<sup>41</sup>

#### Greco-Roman Use of Folk Medicine

The Western cultural die was cast in its attitude towards folklore. On one hand, high science rejected magic and superstition and, because of its connection with them, folklore. On the other hand, it relied on data supplied by it.<sup>42</sup> Two of the best of the brightest of the Hellenistic-Roman scientists and medical persons were Dioscorides and Soranus of Ephesus (second century A.D.). Both of them openly relied on folk medicine and folk lore in their medical writings but they were critical and evaluative in their approach. In the Preface to *De materia medica*, Dioscorides explained how he arrived at his *logos of pharmaka*, that is his science of drugs: first he made direct and personal observations of "most" drugs beginning with identifying, harvesting, and preparing them in the field; second, researching pharmacy data in the written authorities; third, clinical observation—his words, "measuring the activities of drugs experimentally"—of drugs in trials on patients; fourth,

personal field inquiries of folk practices "in each botanical region;" and, finally, arranging them by affinities.<sup>43</sup> While my summary here may sound suspiciously modern, it is only to the degree to which I have placed the sequence of Dioscorides' method stated in his own words. His objective was to impose order on scientific and traditional folk experiences with drugs, data from both communities being the means by which full knowledge of his science would be brought to the attention of the health service people, including the common person, we presume, assisting himself with self-prescribed remedies. In short, with the use of reason, traditional or folk medicine was not only valuable but critical in obtaining data.

There is another practical use of folk medicine for the scientific physician that was elaborated on by Soranus, a second century writer on gynecology. In his description of the ideal midwife, he gave these qualities: "She must be literate in order to be able to comprehend the art through theory too; . . . she will be free from superstition so as not to overlook salutary measures on account of a dream or omen or some customary rite or vulgar superstition."<sup>44</sup> But he also requires her to be sympathetic with the patients. He valued the use of amulets and any number of harmless superstitions because they seem to help the patients' psychological state. Superstitions and folkish practices, however, that resulted in harm or discomfort, he rejected. Folk medicine is useful to the learned physician if its use makes the patient feel better and more receptive to take the good advice of rational therapy. In the words of Lloyd, Soranus "puts his concern for his patients' feeling and their state above his own conception of the futility of superstitious belief."<sup>45</sup>

In contrast to the positive benefits Dioscorides and Soranus saw in traditional folk medicine, two Roman writers espoused traditional medicine in distrust of scientific medicine of the Greeks. Cato simply was anti-Greek and pro-Roman. A Roman learned from his father what he ought to know about medicine and cures. Folk medicine was superior medicine to him, because he distrusted Hellenic ways and trusted things that sprang from the soil of the Roman farm. Magic was employed, but W.H.S. Jones believes only to supplement the feeble curative effect of most of the folk drugs. Pliny noted that for quartan fevers "ordinary medicines (*medicina clinica*) are practically useless; for which reason I shall include several of the magician's remedies." Celsum (fl. c. A.D. 14-37), another Roman writer on medicine, said that rustics used germander in water for pleurisy "not having the remedies prescribed by medical practitioners."<sup>46</sup>

Pliny (d. A.D. 79) certainly knew a lot of remedies because he describes around a thousand plants and over a hundred animal derived drugs, but his positions on folk medicine, scientific medicine, and magic are at once more complex and more important than Cato's because his large sized *Natural History* is very influential. Pliny even joked about magic as when he wrote: "The Magi add also other details

Greek  
vs  
Roman  
tension



[about frogs], and if there is any truth in them, frogs should be considered more beneficial than laws to the life of mankind." He quite rightly observed that the Greeks supported magic and superstition as well as scientific medicine as when he said, "Another extraordinary thing that both these arts, medicine I mean and magic, flourished together, Democritus expounding magic in the same age as Hippocrates expounded medicine, about the time of the Peloponnesian War." The art of the magi, "the most fraudulent of arts," Pliny saw as springing from *medicina* and reinforced by *religio* and *artes mathematicae*.<sup>47</sup> But this did not prevent him from using magicians' remedies for fevers when traditional Roman medicine proved ineffective. Just the same, he had little patience for all the shrill arguments of the high medicine Greeks (*medici*), those practicing scientific medicine, with their contradictions endlessly expounded. In the words of Vivian Nutton, Pliny delivered "the most sustained, influential and potentially devastating attack on doctors and their medicine ever mounted."<sup>48</sup> Pliny sought to provide the means by which the ordinary Roman could arm himself and the family with the practical knowledge to protect himself from the harm done by Greek physicians and all forms of foreign magic and superstition. Like Dioscorides and Celsus, Pliny saw experimentation as a means of proof of a medicine's effectiveness,<sup>49</sup> which he even did himself as when he said—strangely enough to us: "I find that a heavy cold clears up if the sufferer kisses a mule's muzzle." Folk learning with medicines provided that proof and freedom from foreign influences. The smart person, however, learns all that he can. Even though he counselled the use of amulets employed by the magi for quartan fevers because "ordinary medicines are practically useless," Pliny bemoans that the exotic remedies from abroad are preferred to those available in the local garden.<sup>50</sup>

The last representation of classical thinking about folk medicine comes from Marcellus (*fl* 379–395), who wrote in the late Autumn of classical thought, when the sun was setting on the Roman Empire. He began his work with the following statement: "While I follow the aspirations of learned people, who to be sure may be strangers to the practice of medicine, however, despite their objective of producing cures by rational procedures, I have written this book about empirical cures, resourcefully and diligently collected, of natural remedies, reasonable preparations and observations with resources provided me from all kinds of sources." Marcellus claims that he has assembled information not only from the learned written authorities, but "fortunate remedies and simples from rural folk and lower class people."<sup>51</sup> Indeed, he did and uncritically at that. His work, *On Medicines*, combines Hippocratic knowledge together with Roman and Celtic popular remedies and rank superstition. If he were placed in modern terminology, we would call him an integrationist. Information about drugs was information about drugs, regardless the source of the information.

### Conclusion

There are a number of ways to view folk medicine. Many people in today's learned communities regard folk medicine as thoroughly old fashioned, at best quaint, at worst dangerous for its deceptive practices, when scientific medical procedures are available by professionally trained personnel. These people share the same view as the Hippocratic writers. Another school of thought holds that folk medicine is a form of experience, an uncontrolled laboratory, which, if examined carefully and critically, can provide helpful information for modern science. Adherents of this school share the same position as Theophrastus and Dioscorides. Some people in the modern world, frequently they are social scientists although not exclusively, regard folk medicine within a cultural frame and they see that it can be valuable to modern medical practitioners in so far as they can know the psychological state of their patients and possibly build on that knowledge empirically. These people regard folk medicine much the same as did Soranus. Another school of modern people really wish that they were not so modern, because the old fashioned ways of their fathers and mothers were better. They stand with Pliny who stood with Cato. And finally, there is a small group of people who believe that facts are only functional things that work within a context and are discarded when they do not. Procedures, methodology, and rational judgments are set aside. Best it is to integrate knowledge from science, tradition, East and West. These people share the same position as Marcellus. It would seem that the principal positions that one can take in respect to folk medicine had been taken already by classical writers. What is new? partly my appreciation of what is old.

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